

Customer No.: 31561
Application No.: 10/064,238
Docket No.: 8868-US-PA

REMARKS

Claim Rejections – 35 U.S.C. § 102

Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Farhang-Boroujeny et al. U.S. Pat 6,853,626.

In response to the rejection to claims 1-16 under 35 U.S.C. 102(e) as being anticipated by Farhang-Boroujeny et al. U.S. Pat 6,853,626, Applicants have amend independent claims 1 and 9 and hereby traverse this rejection. As such, Applicant submits that claims 1-16 are novel and unobvious over Farhang-Boroujeny '626, and any of the other cited references, taken alone or in combination.

Claim 1, as amended, recites in part:

A method for hardware reduction in an echo canceller, comprising:
applying an N (N is a positive integer) times divide frequency sampling operation onto an input data list of the echo canceller, and the frequency-divided input data list is then transmitted to the echo canceller for performing an echo signal cancellation operation on the frequency-divided input data list...
(Emphasis added)

Applicants submit that such a method as set forth in claim 1 is neither taught, disclosed, nor suggested by Farhang-Boroujeny '626, or any of the other cited references, taken alone or in combination.

Applicants note that the Examiner has addressed Applicants' arguments with respect the rejection and has given the reasons for which the Examiner sustained the rejection, for which courtesy the Examiner is thanked. However, Applicants respectfully disagree with the reasons given by the Examiner.

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The Examiner asserted that "the features upon which applicant relies (i.e., the decimator 238 is not coupled *before* the echo canceller as mentioned at the top of page 3 of applicant's arguments) are not recited in the rejected claim(s)" (Second paragraph of page 2 of the current Office Action). Applicants submit that what is relied to traverse the rejection is that "Farhang-Boroujeny '626 fails to disclose, teach or suggest a step of the present method, that is 'applying an N (N is a positive integer) times divide frequency sampling operation onto **an input data list of the echo canceller**' as set forth in claim 1 (Emphasis added)" (See previous response mailed on April 26, 2006, hereinafter "previous response), rather than what is asserted by the Examiner.

Regarding the Examiner's description, Applicants understand that the Examiner has admitted that "the decimator 238 is not coupled *before* the echo canceller" according to Farhang-Boroujeny '626. As shown in FIG. 2 of Farhang-Boroujeny '626, as indicated by the arrows showing the signal transmitting directions, an input data list of the echo canceller of Farhang-Boroujeny '626 is J times upsampled by the UPSAMPLE item 232. As a result, it is undeniable that such a decimator 238 has definitely no way to apply any divide frequency smapling operation onto an input data list of the echo canceller.

Therefore, Applicants submit that the reasons given by the Examiner is a precondition (i.e., "the decimator 238 is not coupled *before* the echo canceller") that determines a result (i.e., decimator 238 has no way to apply any divide frequency smapling operation onto an input data list of the echo canceller) of Farhang-Boroujeny '626 being definitely distinct from the present invention as set forth in claim 1. Since the result is inherent with the precondition, while the result is distinctly excluded as "applying an N (N is a positive integer) times divide frequency

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sampling operation onto an **input data list of the echo canceller**" as set forth in claim 1 (Emphasis added), the precondition is not compulsorily recited in the independent claim 1.

Furthermore, Applicants would like to have the Examiner pay more attention on the key issue Applicants addressed in the previous response that is "Farhang-Boroujeny '626 fails to disclose, teach or suggest a step of 'applying an N (N is a positive integer) times divide frequency sampling operation onto an **input data list of the echo canceller**' as set forth in claim 1", on which both FIGS. 3 and 4 are applicable (i.e., the divide frequency sampling operation, as set forth in claim 1 is applied to the input signals, marked as $X_0, X_1, X_2, X_3, \dots, X_N$), rather than relative position of decimator and the echo canceller. The reason that Applicants mentioned relative position thereof in the previous response is that such a relative position necessitates Farhang-Boroujeny '626 to present a feature distinct from a limitation required by the present invention as set forth in claim 1.

However, for precisely and clearly reciting the structure of an echo canceller and the relationship of the echo canceller to the other elements of the claim, Applicants have amended claim 1 to recite "applying an N (N is a positive integer) times divide frequency sampling operation onto an input data list of the echo canceller, and the frequency-divided input data list is then transmitted to the echo canceller for performing an echo signal cancellation operation on the frequency-divided input data list..." (Emphasis added)

For failing to teach every element of amended claim 1, Farhang-Boroujeny '626 does not anticipate the present invention, as set forth in amended claim 1 at all. As such, the present invention as set forth in amended claim 1 is submitted to be novel and unobvious over Farhang-

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Boroujeny '626, or any of the other cited references, taken alone or in combination, and thus should be allowed. MPEP §2131

Likewise, claim 9, as amended, recites in part:

A method for hardware reduction in a near-end crosstalk canceller, comprising:
applying an N (N is a positive integer) times divide frequency sampling operation onto an input data list of the near-end crosstalk canceller, and the frequency-divided input data list is then transmitted to the echo canceller for performing an near-end crosstalk cancellation operation on the frequency-divided input data list ...(*Emphasis added*)

For the reasons discussed above addressing to the allowability of claim 1, Farhang-Boroujeny '626 also fails to disclose, teach or suggest a step of the present method, as set forth in amended claim 9, that is "applying an N (N is a positive integer) times divide frequency sampling operation onto an input data list of the near-end crosstalk canceller, and the frequency-divided input data list is then transmitted to the near-end crosstalk canceller for performing an near-end crosstalk cancellation operation on the frequency-divided input data list" (*Emphasis added*). As such, the present invention, as set forth in amended claim 9 is submitted to be novel and unobvious over Farhang-Boroujeny '626, or any of the other cited references, taken alone or in combination, and thus should be allowed.

If independent claim 1 is allowable over the prior art of record, then its dependent claims 2-8 are allowable as a matter of law, because these dependent claims contain all features of their respective independent claim 1. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

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If independent claim 9 is allowable over the prior art of record, then its dependent claims 10-16 are allowable as a matter of law, because these dependent claims contain all features of their respective independent claim 9. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-16 are in proper condition for allowance and an action to such effect is earnestly solicited. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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